Amendments to the Claims:

1. (Previously Presented) An access point providing a wireless local area network operable to connect a terminal device to a wide area network, the access point comprising:

an antenna unit operable to send and receive a radio frequency signal for exchanging information via the wireless local area network, wherein the antenna unit comprises a sending antenna operable to send the radio frequency signal, and a plurality of receiving antennas around the sending antenna operable to receive the radio frequency signal from a terminal device located between the sending antenna and the receiving antennas;

a signal conversion unit operable to convert between the radio frequency signal and a digital signal as the information;

an information processing unit operable to process the digital signal based on a communication protocol for exchanging of the information;

an antenna case that includes the antenna unit and the signal conversion unit;

a main unit case that is separated from the antenna case and includes the information processing unit and a receiving synthesis unit;

a wired cable connected to the antenna case and the main unit case, wherein the wired cable is operable to transmit the digital signal between the signal conversion unit and the information processing unit; and

wherein the receiving synthesis unit is connected to each one of the plurality of receiving antennas by the wired cable and performs diversity receiving with respect to the received radio frequency signals from the plurality of receiving antennas.

2. (Original) An access point according to claim 1, wherein the signal conversion unit comprises:

a frequency conversion unit that performs conversion between the radio frequency signal and an intermediate frequency signal having lower frequency than the radio frequency signal;

a modem unit that performs modulation and/or demodulation between the intermediate frequency signal and a base band signal; and

a base band unit that performs conversion between the base band signal and the digital signal.

3. (Previously Presented) An access point according to claim 1, wherein the transmission of the digital signal by the wired cable is either one of serial transmission and parallel transmission.

4. (Previously Presented) An access point according to claim 1, wherein the wired cable, in addition to transmission of the digital signal, performs at least one of transmission of a control signal and power supply, for at least one of the antenna unit and the signal conversion unit.

5. (Previously Presented) An access point according to claim 1, wherein the wired cable is coaxial cable.

6. (Previously Presented) A method for exchanging signals at an access point operable to provide a wireless local area network connection to a terminal device, for connecting the terminal device to a wide area network, the method comprising:

disposing an information processing unit in a main unit case, wherein the information processing unit is operable to process a digital signal based on a communication protocol used by the wireless local area network;

disposing a signal conversion unit in an antenna case separated from the main unit case, wherein the signal conversion unit is operable to convert between the digital signal and a radio frequency signal which an antenna unit sends and receives over the wireless local area network, wherein the antenna unit comprises a sending antenna operable to send the radio frequency signal and a plurality of receiving antennas around the sending antenna operable to receive the radio frequency signal from a terminal device located between the sending antenna and the receiving antennas;

connecting the main unit case and the antenna case via a wired cable, wherein a receiving synthesis unit in the main unit case is connected to each one of the plurality of receiving antennas by the wired cable; and

transmitting the digital signal according to the protocol of the local area network via the wired cable, wherein the receiving synthesis unit is operable to perform diversity receiving with respect to the received radio frequency signals from the plurality of receiving antennas.

7. (Currently Amended) An access point operable to effectively provide a wireless local network operable to connect a terminal device to a wide area network, the access point comprising:

a main unit case that includes an information processing unit operable to process a digital signal based on a communication protocol for communicating with the terminal device;

a sending antenna case that includes a sending signal conversion unit and a sending antenna unit, wherein the sending signal conversion unit is operable to convert the digital signal from the information processing unit into a converted radio frequency signal for exchanging information via the wireless local area network, and wherein the sending antenna unit is operable to send the converted radio frequency to the terminal device;

a plurality of receiving antenna cases around the sending antenna case, wherein each of the plurality of receiving antenna cases includes a receiving antenna unit and a receiving conversion unit, wherein the receiving antenna unit operable to receive a radio frequency signal from the terminal device, and wherein the receiving conversion unit operable to convert the radio frequency signal received by the receiving antenna unit into a digital signal for transmitting to the information processing unit; [[and]]

a plurality of wired cables operable to transmit: (a) the digital signal from the main unit case to the sending antenna case, and (b) the digital signal from the receiving antenna case to the main unit case; and

wherein the information processing unit includes a receiving synthesis unit that performs diversity receiving with respect to the radio frequency signal received at the plurality of receiving antenna cases.